

Practitioner's Docket No. _____

1672-3

09/PATENT/463914

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.'" M.P.E.P. § 601, 7th ed.

**TRANSMITTAL LETTER TO THE U.S. DESIGNATED OFFICE (DO/US)—
ENTRY INTO THE U.S. NATIONAL STAGE UNDER CHAPTER I**

INTERNATIONAL APPLICATION NO. PCT/ES99/00157	INTERNATIONAL FILING DATE 28 May 1999	PRIORITY DATE CLAIMED 1 June 1998
TITLE OF INVENTION SYSTEM FOR FIXING ROTARY CUTTING DIES IN MACHINES FOR DIE CUTTING LAMINAR MATERIAL		
APPLICANT(S) SERRA OBIOL, Ramon		

Box PCT

Assistant Commissioner for Patents

Washington D.C. 20231

ATTENTION: DO/US

NOTE: The completion of those filing requirements that can be made at a time later than 20 months from the priority date results from the Commissioner exercising his judgment under the authority granted under 35 U.S.C. § 371(d). The filing receipt will show the actual date of receipt of the last item completing the entry into the national phase. See 37 C.F.R. § 1.491, which states: "An international application enters the national stage when the applicant has filed the documents and fees required by 35 USC 371(c) within the periods set forth in § 1.494 and § 1.495."

CERTIFICATION UNDER 37 C.F.R. § 1.10*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this Transmittal Letter and the papers indicated as being transmitted therewith is being deposited with the United States Postal Service on this date February 1, 2000, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number EL318584084US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

John S. Egbert

(type or print name of person mailing paper)


 Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(Transmittal Letter to the United States Designated Office (DO/US)—Entry into National Stage under 35 U.S.C. § 371 [13-6]—page 1 of 8)

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WARNING: Where the items are those that can be submitted to complete the entry of the international application into the national phase subsequent to 20 months from the priority date, the application is still considered to be in the international stage. And if mailing procedures are utilized to obtain a date the express mail procedure of 37 C.F.R. § 1.10 must be used (because international application papers are not covered by an ordinary certificate of mailing. 37 C.F.R. § 1.8(2)(ii)).

WARNING: Documents and fees must be clearly identified as a submission to enter the national stage under 35 U.S.C. § 371, otherwise the submission will be considered as being made under 35 U.S.C. § 111. 37 C.F.R. § 1.494(f).

WARNING: Failure to pay the national fee within 20 months from the priority date will result in the abandonment of the application. The time for payment of the basic fee is not extendable. M.P.E.P. § 1893.01(a)(1), 6th ed., rev. 3.

1. Applicant herewith submits to the United States Designated Office (DO/US) the following items under 35 U.S.C. § 371:

- a. ☒ This express request to immediately begin national examination procedures (35 U.S.C. § 371(f)).
- b. ☒ The U.S. National Fee (35 U.S.C. § 371(c)(1)) and
☐ other fees (37 C.F.R. § 1.492), as indicated below:

2. Fees

CLAIMS FEE	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
<input type="checkbox"/> *	TOTAL CLAIMS	11 —20=		×\$ 18.00=	\$
	INDEPENDENT CLAIMS	1 —3=		×\$ 78.00=	
	MULTIPLE DEPENDENT CLAIM(S) (if applicable) + \$260.00				
BASIC FEE**	The international search fee, as set forth in § 1.445(a)(2) to be paid to the US PTO acting as an International Searching Authority: <input type="checkbox"/> has been paid (37 CFR 1.492(a)(2)) \$760.00 <input type="checkbox"/> has not been paid (37 CFR 1.492(a)(3)) \$970.00 <input checked="" type="checkbox"/> where a search report on the international application has been prepared by the European Patent Office or the Japanese Patent Office (37 CFR 1.492(a)(5)) \$840.00				840
	Total of above Calculations				= 840
SMALL ENTITY	Reduction by 1/2 for filing by small entity, if applicable. Affidavit must be filed also. (note 37 CFR 1.9, 1.27, 1.28)				- 420
	Subtotal				420
	Total National Fee				\$ 420
	Fee for recording the enclosed assignment document \$40.00 (37 CFR 1.21(h)). (See Item 10 below). See attached "ASSIGNMENT COVER SHEET (37 C.F.R. § 3.34)".				40
TOTAL	Total Fees enclosed				\$ 460

* See attached Preliminary Amendment Reducing the Number of Claims.

****WARNING:** "To avoid abandonment of the application, the applicant shall furnish to the United States Patent and Trademark Office not later than the expiration of 20 months from the priority date: * * * (2) the basic national fee (see § 1.492(a)). The 20-month time limit may not be extended." 37 C.F.R. § 1.494(b).

(Transmittal Letter to the United States Designated Office (DO/US)—Entry into National Stage under 35 U.S.C. § 371 [13-6]—page 3 of 8)

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- i. ☒ A check in the amount of \$ 460 to cover the above fees is enclosed.
- ii. ☐ Please charge Account No. _____ in the amount of \$ _____

A duplicate copy of this sheet is enclosed.

WARNING: *If the translations of the international application and/or the oath or declaration have not been submitted by the applicant within twenty (20) months from the priority date, the applicant will be so notified and given a period of time within which to file the translation and/or oath or declaration in order to prevent abandonment. The payment of the surcharge set forth in § 1.492(e) is required as a condition for accepting the oath or declaration later than twenty (20) months after the priority date. The payment of the processing fee set forth in § 1.492(f) is required for acceptance of an English translation later than twenty (20) months after the priority date. Failure to comply with these requirements will result in abandonment of the application. The provisions of § 1.136 will apply. 37 C.F.R. § 1.494(c).*

3. A copy of the International application as filed (35 U.S.C. § 371(c)(2)):
- a. ☐ is transmitted herewith.
- b. ☐ is not required, as the application was filed with the United States Receiving Office.
- c. ☐ has been transmitted
- i. ☐ by the International Bureau. Date of mailing of the application (from form PCT/IB/308): _____
- ii. ☐ by applicant on _____
Date

NOTE: *Section 1.494(b) was amended to require that the basic national fee and a copy of the international application must be filed with the Office by 20 months from the priority date to avoid abandonment. "The International Bureau normally provides the copy of the international application to the Office in accordance with PCT Article 20. At the same time, the International Bureau notifies the applicant of the communication to the Office. In accordance with PCT Rule 47.1, that notice shall be accepted by all designated offices as conclusive evidence that the communication has duly taken place. Thus, if the applicant desires to enter the national stage and applicant has received notice from the International Bureau, applicant need only pay the basic national fee by 20 months from the priority date." [This can now be paid subsequently with a surcharge.] Notice of Jan. 7, 1993, 1147 O.G. 29 to 40, at 35.*

4. ☒ A translation of the International application into the English language (35 U.S.C. § 371(c)(2)):
- a. ☒ is transmitted herewith.
- b. ☐ is not required as the application was filed in English.
- c. ☐ was previously transmitted by applicant on _____
Date

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5. ☒ Amendments to the claims of the International application under PCT Article 19 (35 U.S.C. § 371(c)(3)):

NOTE: The Notice of January 7, 1993 indicates that 37 C.F.R. § 1.494(d) was "amended to clarify the existing practice that PCT Article 19 Amendments must be submitted by 20 months from the priority date, which time may not be extended." This Notice further advises: "Of course, the failure to do so does not result in loss of the subject matter of PCT Article 19 amendments. The applicant may submit that subject matter in a preliminary amendment filed under Section 1.121. In many cases, filing an amendment under Section 1.121 is preferable since grammatical or idiomatic errors may be corrected." 1147 O.G. 29-40, at 35. See item 11(c) below. See also 37 C.F.R. § 1.494(d).

- a. ☐ are transmitted herewith.
 - b. ☐ have been transmitted
 - i. ☐ by the International Bureau. Date of mailing of the amendment (from form PCT/IB/308): _____
 - ii. ☐ by applicant on _____
Date
 - c. ☒ have not been transmitted, as
 - i. ☐ no notification has been received that the International Search Authority has received the Search Copy.
 - ii. ☐ the Search Copy was received by the International Searching Authority, but the Search Report has not yet been issued. Date of receipt of Search Copy (from form PCT/ISA/202): _____
 - iii. ☒ applicant chose not to make amendments under PCT Article 19. Date of mailing of Search Report (from form PCT/ISA/210): _____
 - iv. ☐ the time limit for the submission of amendments has not yet expired. The amendments, or a statement that amendments have not been made, will be transmitted before the expiration of the time limit under PCT Rule 46.1.
6. ☒ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. § 371(c)(3)):
- a. ☐ is transmitted herewith.
 - b. ☐ is not required as the amendments were made in the English language.
 - c. ☒ has not been transmitted for reasons indicated at point 5(c) above.
7. ☒ An oath or declaration of the inventor, including power of attorney, (35 U.S.C. § 371(c)(4)) complying with 35 U.S.C. § 115
- a. ☐ was previously submitted by applicant on _____
Date
 - b. ☒ is submitted herewith, and such oath or declaration
 - i. ☒ is attached to the application.
 - ii. ☐ identifies the application and any amendments under PCT Article 19 that were transmitted as stated in points 3(b) or (c) and 5(b); and states that they were reviewed by the inventor, as required by 37 C.F.R. § 1.70.
 - iii. ☐ will follow.

Other document(s) or information included:

8. ☐ An International Search Report or Declaration under PCT Article 17(2)(a):
- ☐ is transmitted herewith.
 - ☐ has been transmitted by the International Bureau. Date of mailing (from form PCT/IB/308): _____
 - ☐ is not required, as the application was searched by the United States International Searching Authority.
 - ☐ will be transmitted promptly upon request.
 - ☐ has been submitted by applicant on _____
Date
 - ☐ is not transmitted, as the international search has not yet issued.
9. ☐ An Information Disclosure Statement under 37 C.F.R. §§ 1.97 and 1.98:
- ☐ is transmitted herewith.
Also transmitted herewith is (are)
☐ Form PTO—1449 (PTO/SB/08A and 08B)
☐ Copies of citations listed
 - ☐ will be transmitted within THREE MONTHS of the date of submission of requirements under 35 U.S.C. § 371(c).
 - ☐ was previously submitted by applicant on _____
Date
10. ☒ An assignment document is transmitted herewith for recording. A separate
☒ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or
☐ FORM PTO—1595
 is also attached.
☐ Please mail the recorded assignment document to:
- ☐ the person whose signature and address appears below.
 - ☐ the following:

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- ☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b)).

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

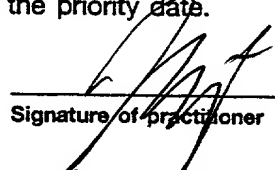
NOTE: 37 C.F.R. § 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application . . . prior to paying or at the time of paying . . . issue fee. . . ." From the wording of 37 C.F.R. § 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

- ☐ 37 C.F.R. § 1.492(e) and (f) (surcharge fees for filing the declaration and/or filing an English translation of an International Application later than 20 months after the priority date).

Reg. No. 30,627

Tel. No.: (713) 223-4034

Customer No.:


Signature of practitioner

John S. Egbert

(type or print name of practitioner)

Harrison & Egbert
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P.O. Address

Houston, Texas 77002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT or PATENTEE: SERRA OBIOL, Ramon

SERIAL or PATENT NO.: (Intl Appn No. PCT/ES99/00157)

FILED or ISSUED:

GROUP:

TITLE: SYSTEM FOR FIXING ROTARY CUTTING DIES IN MACHINES FOR
DIE CUTTING LAMINAR MATERIAL

SMALL ENTITY DECLARATION

[] FOR INDEPENDENT INVENTOR(S)

As a below-named inventor, I hereby declare that I am an independent inventor who (1) has not assigned, granted, conveyed, or licensed, and (2) is under no obligation under contract or law, to assign, grant, convey, or license, any rights in the invention, to any person who could not likewise be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization, as defined in 37 CFR 1.9.

[X] FOR SMALL BUSINESS CONCERN (Comercial Industrial Maquinaria
Carton Ondulado, S.A.)

I hereby declare that CIMCOSA, S. A. is a business concern which qualifies as a small business concern as defined in §1.9(d) - namely, (1) whose number of employees, including those of its affiliates, does not exceed 500 persons; and (2) which has not assigned, granted, conveyed, or licensed, and is under no obligation under contract or law to assign, grant, convey, or license, any rights in the invention to any person who could not be classified as an independent inventor if that person had made the invention, or to any concern which would not qualify as a small business concern or a nonprofit organization under this section; and that the exclusive rights to the invention have been conveyed to and remain with the above-identified small business concern.

I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful, false statements and the like, so made, are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the patent application or any patent issuing thereon.

INVENTOR(S)

Name: SERRA OBIOL RAMON
Date: 1/27/00

Name:
Date:

Name:
Date:

Name:
Date:

SMALL BUSINESS CONCERN:

By CIMCOSA, S. A.
Name: SERRA OBIOL RAMON
Title: Administrador
Date: 1/27/00

By _____
Name: _____
Title: _____
Date: _____

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: SERRA OBIOL, Ramon

SERIAL NO.: (International Patent Application No. PCT/ES99/00157)

FILED: Herewith

TITLE: SYSTEM FOR FIXING ROTARY CUTTING DIES IN MACHINES FOR DIE
CUTTING LAMINAR MATERIAL

PRELIMINARY AMENDMENT

Commissioner of Patents
and Trademarks
Washington, D.C. 20231

Sir:

In conjunction with the filing of the present application, and prior to an initial Official Action
on this matter, please amend the above-identified application as follows:

IN THE SPECIFICATION

On page 1, line 6, delete "DESCRIPTION".

On page 1, line 8, delete "PURPOSE" and insert therefor --TECHNICAL FIELD--.

On page 1, line 10, delete "This descriptive report refers" and insert therefor --The present
invention relates--.

On page 1, line 17, delete "SCOPE".

On page 1, line 23, delete "HISTORY" and insert therefor --BACKGROUND ART--.

On page 1, line 33, delete "that" and insert therefor --the problem of--.

On page 1, line 33, delete "becomes" and insert therefor --becoming--.

On page 2, line 8, delete "that it is" and insert therefor --of being--.

On page 2, line 17, delete "DESCRIPTION" and insert therefor --SUMMARY--.

On page 2, lines 27-28, delete ", purpose of this invention,".

On page 3, line 1, delete "present, " and insert therefor --present; thus,--.

On page 3, line 9, delete "Thanks to" and insert therefor --Because of--.

On page 3, line 20, before "also" insert --it is--.

On page 3, line 20, before "the working" insert --that--.

On page 3, line 20, delete "are" and insert therefor --be--.

On page 3, line 28, delete "quincunxes" and insert therefor --a grid pattern--.

On page 4, lines 1-2, delete "purpose of this invention".

On page 4, line 5, delete "quincunxes" and insert therefor --a grid pattern--.

On page 4, line 9, before "DESCRIPTION" insert --BRIEF--.

On page 4, line 16, delete "way:" and insert therefor --way.--.

On page 4, line 21, delete "view in perspective" and insert therefor --perspective view--.

On page 4, line 24, delete "detail" and insert therefor --detailed view--.

On page 4, last line, delete ", the purpose of this invention".

On page 5, line 1, delete "PREFERRED PERFORMANCE OF THE INVENTION" and insert therefor --DETAILED DESCRIPTION OF THE DRAWINGS--.

On page 5, line 24, delete "quincunxes" and insert therefor --a grid pattern--.

On page 5, line 30, delete "(3)" and insert therefor --(2)--.

On page 5, line 30, delete "this has" and insert therefor --there is--.

On page 5, line 30, delete "butt" and insert therefor --stop--.

On page 5, line 31, delete "butt" and insert therefor --stop--.

On page 5, line 32, delete "whilst" and insert therefor --while--.

On page 6, line 3, delete "quincunxes" and insert therefor --a grid pattern--.

On page 6, line 20, delete "coliso" and insert therefor --bolt notch--.

On page 6, line 29, delete "stage - Whilst" and insert therefor --stage. While--.

On page 6, line 34, delete "butt" and insert therefor --stop--. (first and second occurrences).

On page 7, line 2, delete "stage - The" and insert therefor --stage. The--.

On page 7, line 15, delete "small" and insert therefor --a little--.

On page 7, line 20, delete "coliso" and insert therefor --bolt notch--.

On page 7, line 20, delete "eliminate".

On page 7, line 20, after "air" insert --is eliminated--.

On page 7, lines 21-22, delete ", thus obtaining that" and insert therefor --. Thus,--.

On page 7, line 22, delete "works" and insert therefor --expands--.

IN THE CLAIMS

On page 8, line 2, after "CLAIMS" insert

--I Claim:--.

In Claim 1, lines 2-3, delete "that includes" and insert therefor --comprising a--.

In Claim 1, lines 5-6, delete "characterized by the fact that the" and insert therefor --wherein said--.

In Claim 2, lines 2-3, delete ", according to the first claim, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 3, lines 2-3, delete ", according to the first claim, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 4, lines 2-3, delete ", according to the third claim, characterized by the fact that" and insert therefor --of Claim 3 wherein--.

In Claim 5, lines 2-3, delete ", according to the first claim, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 5, last line, delete "quincunxes" and insert therefor --a grid pattern--.

In Claim 6, lines 2-3, delete ", according to the first claim, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 7, lines 2-4, delete ", according to the fifth and sixth claims, characterized by the fact that" and insert therefor --of Claim 5 wherein--.

In Claim 7, line 5, delete "quincunxes" and insert therefor --a grid pattern".

In Claim 8, lines 2-3, delete ", according to the above claims, characterized by the fact that it" and insert therefor --of Claim 1 wherein said system--.

In Claim 9, lines 2-3, delete ", according to the above claims, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 10, lines 2-3, delete ", according to the ninth claim, characterized by the fact that" and insert therefor --of Claim 9 wherein--.

In Claim 10, line 4, delete "butt" and insert therefor --stop--. (first and second occurrences).

In Claim 11, lines 2-3, delete ", according to the above claims, characterized by the fact that" and insert therefor --of Claim 1 wherein--.

In Claim 11, line 4, delete "coliso" and insert therefor --bolt notch--.

Please remove any multiple dependencies not previously accounted for.

IN THE ABSTRACT

On page 11, line 1, delete "ABSTRACT" and insert therefor

--ABSTRACT OF THE DISCLOSURE--.

On page 11, line 3, delete ", said system comprising" and insert therefor --includes a--.

On page 11, line 3, delete "fixing means" and insert therefor --a fixing element--.

On page 11, lines 4-5, delete "fixing means" and insert therefor --fixing element--.

REMARKS

The present Preliminary Amendment has been entered for the purpose of placing the application into a more proper U.S. format. In particular, certain grammatical and idiomatic inconsistencies have been corrected by amendment to the specification.

The specification has been amended so as to add the proper headings before the various sections of the application.

The claims have been amended to conform with U.S. format requirements. The claims have also been amended so as to remove multiple dependencies throughout.

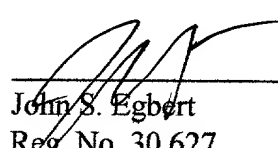
The Abstract has been amended so as to conform with U.S. requirements.

Applicant respectfully requests that the present Amendment be entered prior to an initial Official Action on the present application.

Respectfully submitted,

Date

2-1-00



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(713)223-4873 fax

SYSTEM FOR FIXING ROTARY CUTTING DIES IN
MACHINES FOR DIE CUTTING LAMINAR MATERIAL

5

DESCRIPTION

PURPOSE

10 This descriptive report refers to a system for
fixing rotary cutting dies in machines for die cutting
laminar material, the purpose of which lies in its
configuration as a system that permits fixing rotary
cutting dies on the cylinders or cutting die supports
15 in machines for die cutting laminar material.

SCOPE

This invention is applied within the industry
20 dedicated to the manufacture of die cutting machines,
especially machines for die cutting laminar material.

HISTORY

25 In rotary cutting die machines, the material to
be cut, for example cardboard for making boxes, is
moved between a cutting die support cylinder and a
counter-cutting die cylinder or anvil, also rotary, so
that at each turn of the cylinders the cutting die
30 falls on the counter-cutting die and makes a cut or
warping on the cardboard.

To avoid that the cutting die becomes damaged by
the blow, the surface of the counter-cutting die is
35 provided with a polyurethane coating.

At present, the rotary cutting dies are fixed on the cutting die support by means of screws that are coupled to the corresponding screw holes made on the surface of the cutting die support cylinder.

This fixing system has the main inconvenience that it is excessively slow, as a considerable number of screws has to be placed.

The statement made in the above paragraph confirms that the stopping time of the machine when a new cutting die has to be mounted is excessive and this affects the productivity of the rotary cutting die machine.

DESCRIPTION OF THE INVENTION

The system for fixing rotary cutting dies in machines for die cutting laminar material proposed by the invention is formed in itself as an obvious novelty that manages to resolve the above mentioned inconvenience and, furthermore, presents other advantages to be described later on.

The system for fixing rotary cutting dies in machines for die cutting laminar material, purpose of this invention, includes fixing means between the cutting die and a cutting die support cylinder, where the fixing means has a number of bolts operated by a driving device.

This characteristic permits rapid fixing of the rotary cutting die to the cutting die support cylinder, with the result that the shutdown time of the machine to change the cutting die is less than at

present, improving the productivity of the cutting die machine.

5 The system of the invention also has the peculiarity that each of the working devices is housed inside a hollow body fixed to the cutting die support cylinder.

10 Thanks to this characteristic the manufacturing costs of the cutting die machine are not overexpensive, in turn permitting that maintenance and mechanization of the machine are quick and easy.

15 Preferably, the working devices are also dynamic fluid cylinders that operate independently in the two halves of the cutting die support cylinder.

20 According to their performance, the dynamic fluid cylinders are pneumatic or hydraulic cylinders and also preferred the working devices are dynamic fluid cylinders that operate independent of the two halves of the cutting die support cylinder.

25 Likewise, according to their performance, the dynamic fluid cylinders are pneumatic or hydraulic cylinders and it should be indicated that it is also preferred that the bolts are placed on the rotary cutting die in quincunxes with the result that the bolts occupy the whole surface of the cutting die in a
30 uniform way.

According to a performance, the system of the invention also includes screwed drill holes to fix the rotary cutting die to the cutting die support
35 cylinder, placing these screwed drill holes to ensure fixing of the rotary cutting die to the cutting die

support cylinder in the event the system purpose of this invention is not used.

Preferably, the drill holes are also placed on the cutting die support cylinder in quincunxes, occupying the places that have not been used by the bolts.

DESCRIPTION OF THE DRAWINGS

10

To complement the description which follows and in order to help with a better understanding of the characteristics of the invention, this descriptive report includes a set of drawings in which the following is represented in an illustrative but not limiting way:

Figure 1 shows an elevated section view of a working device.

20

Figure 2 shows a view in perspective of a cutting die placed on a cutting die support cylinder.

Figure 3 shows a detail of the centering system of the cutting die on the cutting die support cylinder.

Figure 4 shows a fixing hole of the cutting die.

Figures 5, 6, 7 and 8 correspond to elevated section views of the four working positions of the working device relating to the system for fixing rotary cutting dies in machined for die cutting laminar material, the purpose of this invention.

35

PREFERRED PERFORMANCE OF THE INVENTION

5 In view of these figures, it can be seen how the system for fixing rotary cutting dies in machines for die cutting laminar material is made up of rotary cutting dies (1) which are fixed to cutting die support cylinders (2) by means of a number of bolts
10 (3) worked by a pneumatic cylinder (5).

The bolts (3) are fixed to the piston (6) of the pneumatic cylinder (5) by a screw nut (4) the head (7) of which has a larger diameter that fixes the cutting
15 die (1) to the cutting die support cylinder (2).

The pneumatic cylinders (5) are housed inside two hollow bodies (8) and each of these hollow bodies (8) is fixed to the cutting die support cylinder (2) by
20 means of four fixing screws (10).

As can be seen in figure 2, the bolts (3) are placed on cutting die support cylinders (2) and on the rotary cutting die (1) in quincunxes, so that they
25 occupy the whole surface of the cutting die (1) in a uniform way.

In figure 3 it can be seen that, in order to center the cutting die (1) on the cutting die support
30 cylinder (3), this has a circumferential butt (19) and an axial butt (20) for centering the cutting die (1), whilst the cutting die (1) has a centering guide (21).

The fixing system can also include screwed drill
35 holes (22) to fix the rotary cutting die (1) to the cutting die support cylinder (2) and, in this case,

the screwed drill holes (22) are also placed on the cutting die support cylinder (2) and on the rotary cutting die (1) in quincunxes, occupying the places that have not been previously occupied by the bolts (3).

At the bottom of each pneumatic cylinder (5) there is an orifice (11) connected to a duct (12) for injecting pressurized air. In the event that the bolt (3) does not find any hole (15) in the cutting die (1) through which it can exit, the system of the invention has a hollow piston (6) that has a spring (14) inside which gives way and permits the bolt (3) to remain hidden inside the piston (6) and in a hollow (18) in the lid (9) of the pneumatic cylinder. This lid (9) is fixed to the cutting die (1) with the same screws (10) as the hollow body (8).

The holes (15) of the cutting die (1) have a "coliso" (16) provided with an adapter (17) in the shape of the head (7) of the bolt (3).

The different work stages of the working devices can be seen in figure 5.

The above mentioned stages of the working devices are as follows:

First stage - Whilst the pneumatic cylinder (figure 5) has no pressurized air, the spring (13) pushes the bolt (3) towards the inside of the hollow body (8). The cutting die (1) is placed on the cutting die support cylinder (2), butting against the circumferential butt (19) and the centering axial butt (20) of the cutting die support cylinder (2).

Second stage - The pneumatic cylinder, as shown in figures 6 and 7, receives the pressurized air through an orifice (1) made at the bottom of the pneumatic cylinder (5), connected to a duct (12), driving this pressurized air upwards to the piston (6) and, at the same, the bolt (3), thus overcoming the stress of the spring (13), as shown in figure 7.

In the hypothetical case that the outlet of the bolt (3) was obstructed, the pressurized air would continue to overcome the stress of the spring (13), thus maintaining the piston up, but the bolt (3) would remain hidden inside the piston (6), thus placing small pressure produced by the spring (14) on the cutting die (1), as shown in figure 6.

Third stage - In this stage the cutting die (1) must be moved axially towards the position of the "coliso" (16) and then eliminate the pressurized air from inside the pneumatic cylinder, thus obtaining that the spring (13) works and in this way moves the piston (6) and the bolt (3) towards the inside of the cutting die support cylinder (2), thus fixing the head (7) of the bolt (3) and the cutting die (1) to the cutting die support cylinder (2), as shown in figure 8.

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CLAIMS

1. System for fixing rotary cutting dies in
5 machines for die cutting laminar material that
includes means for fixing the cutting die (1) and a
cutting die support cylinder or surface (2) around
which the cutting die (1) is arranged, characterized
by the fact that the fixing means include a number of
10 bolts (3) operated by a working device (5) housed
inside a hollow body (6) fixed to the cutting die
support cylinder (2).

2. System for fixing rotary cutting dies in
15 machines for die cutting laminar material, according
to the first claim, characterized by the fact that the
bolts (3) have an area with a larger diameter in the
head that fixes the cutting die (1) to the cutting die
support cylinder (2).

3. System for fixing rotary cutting dies in
machines for die cutting laminar material, according
to the first claim, characterized by the fact that the
working devices (5) are dynamic fluid cylinders that
25 operate independently in the two halves of 180° of the
cutting die support cylinder (2), in the event the
cutting die (1) is rotary.

4. System for fixing rotary cutting dies in
30 machines for die cutting laminar material, according
to the third claim, characterized by the fact that the
dynamic fluid cylinders (5) are pneumatic or hydraulic
cylinders.

5. System for fixing rotary cutting dies in
35 machines for die cutting laminar material, according

to the first claim, characterized by the fact that the bolts (3) are placed on the rotary cylinder or on a flat surface in quincunxes.

5 6.System for fixing rotary cutting dies in machines for die cutting laminar material, according to the first claim, characterized by the fact that it is provided with screwed drill holes (22) for fixing the rotary cutting die (1) to the cutting die support
10 cylinder (2).

 7.System for fixing rotary cutting dies in machines for die cutting laminar material, according to the fifth and sixth claims, characterized by the
15 fact that the drill holes (22) are also placed on the rotary cutting die (1) in quincunxes, occupying the places not occupied by the bolts (3).

 8.System for fixing rotary cutting dies in
20 machines for die cutting laminar material, according to the above claims, characterized by the fact that it has springs (13) and (14) which work on the bolt (3) so that it remains inside the hollow piston (6) when the outlet of the bolt (3) is obstructed by the
25 cutting die (1).

 9.System for fixing rotary cutting dies in machines for die cutting laminar material, according to the above claims, characterized by the fact that
30 the cutting die (1) is centered on the cutting die support cylinder (2).

 10.System for fixing rotary cutting dies in machines for die cutting laminar material, according
35 to the ninth claim, characterized by the fact that it has a circumferential butt (19) and an axial butt (20)

in the cutting die support cylinder (2), and a centering guide (21) in the cutting die (1).

5 11. System for fixing rotary cutting dies in machines for die cutting laminar material, according to the above claims, characterized by the fact that it is a hole (15) with a "coliso" (16) and an adapter (17) made in the wood of the cutting die so that,
10 after having moved the wood and eliminated the air from the pneumatic cylinder (5), the head (7) of the bolt (3) fixes the cutting die (1) against the cutting die support cylinder (2).

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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System for fixing rotary die cutters in die cutting machines for cutting laminar material, said system comprising fixing means between the die (1) and a die-holder surface or cylinder (2) around which the die (1) is arranged, wherein the fixing means include a plurality of bolts (3) actuated by an actuator (5) housed inside a hollow body (8) fixed to the die-holder cylinder (2) in order to provide for a rapid fixing of the rotary die to the die-holder cylinder.

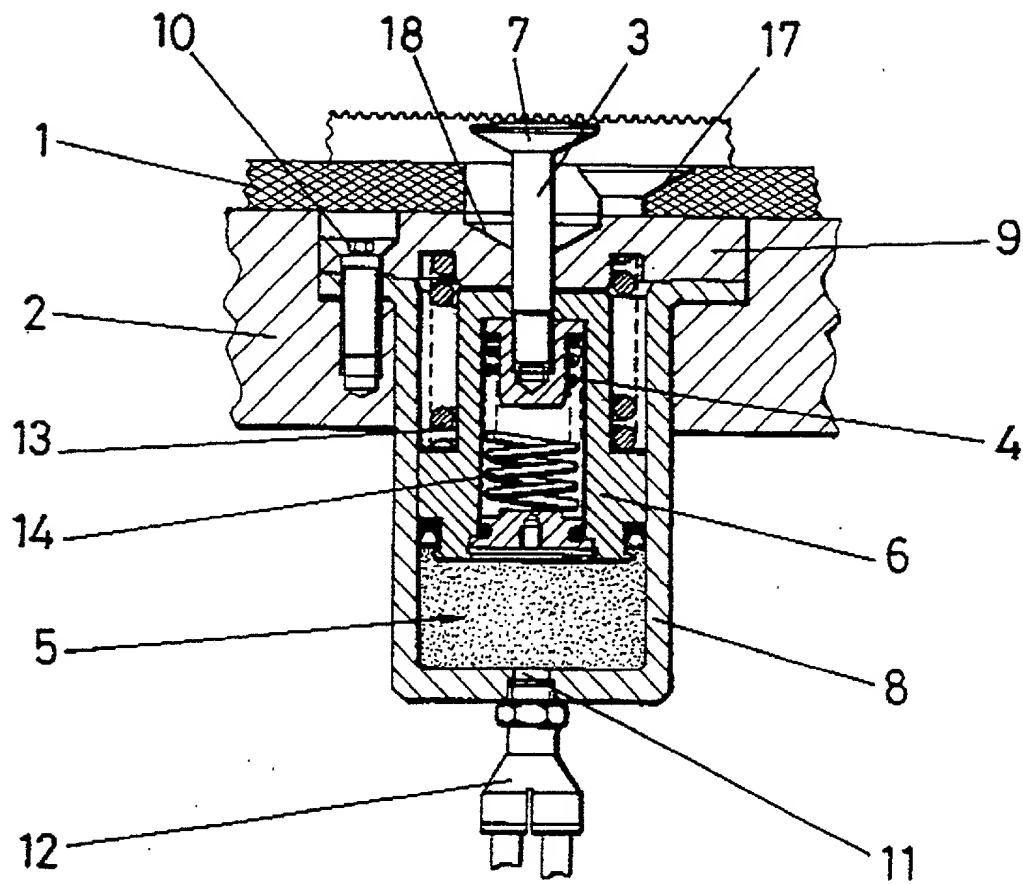
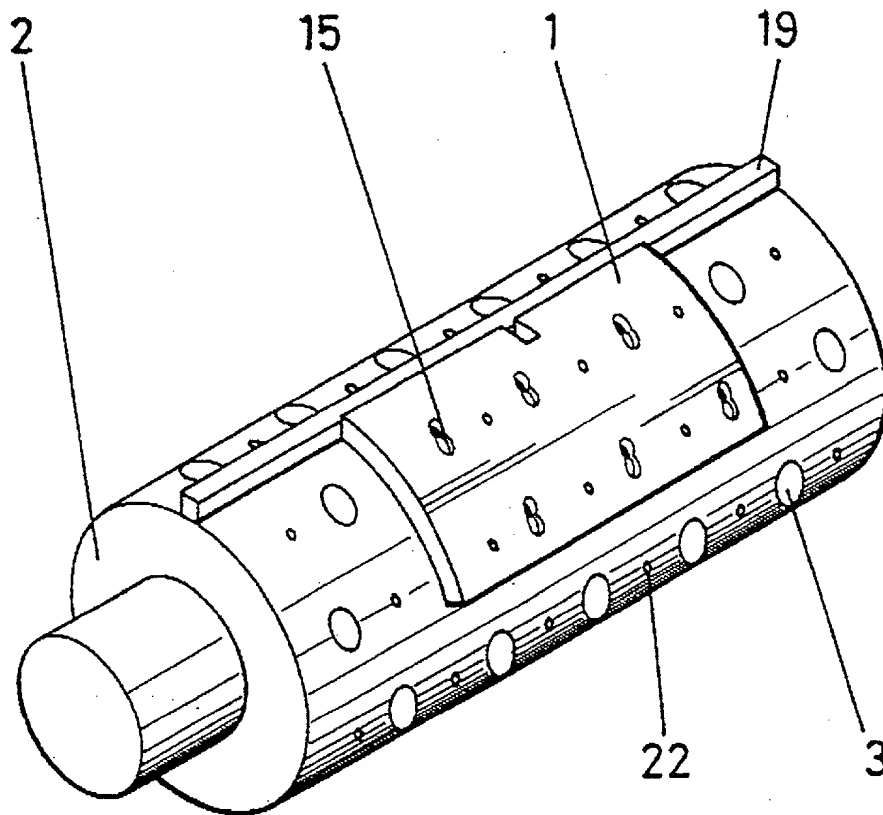


FIG. 1

**FIG. 2**

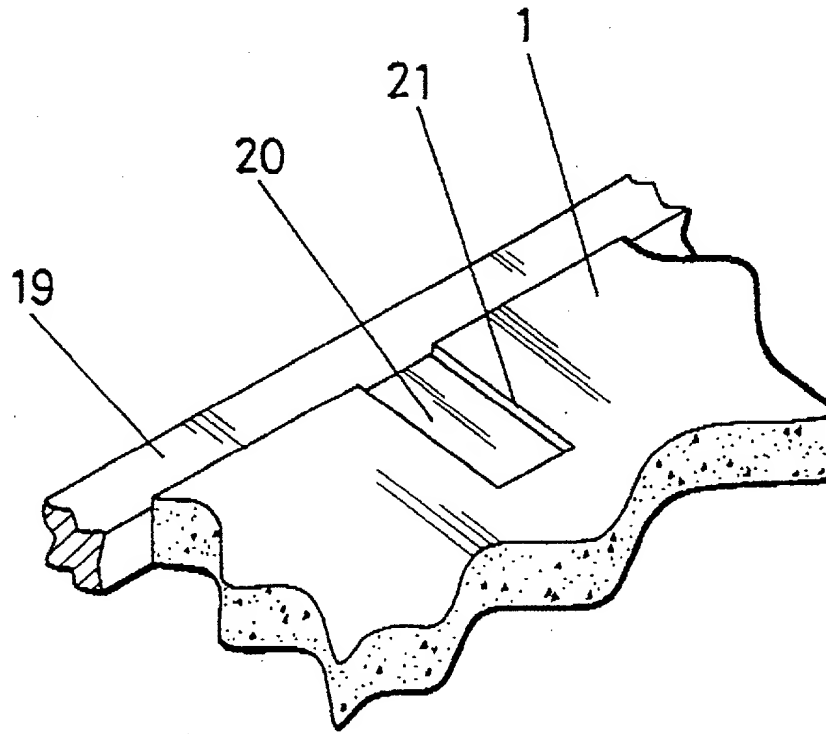


FIG. 3

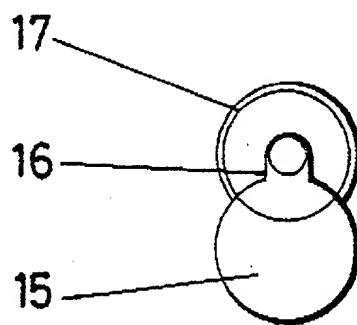


FIG. 4

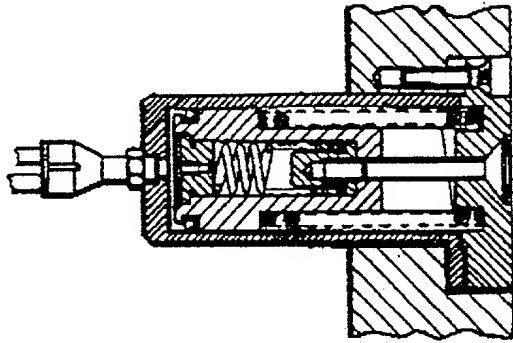


FIG. 5

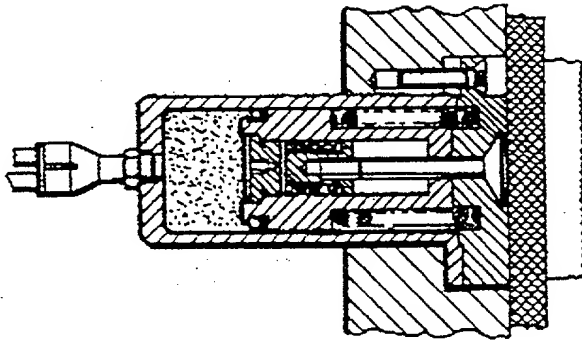


FIG. 6

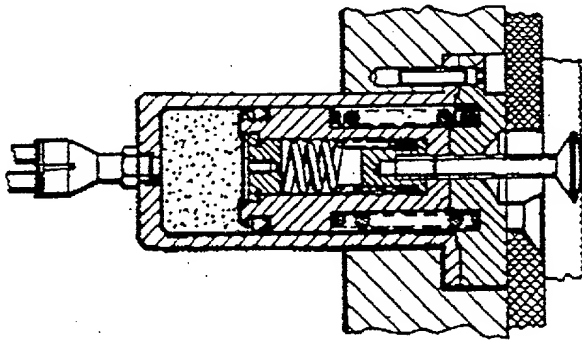


FIG. 7

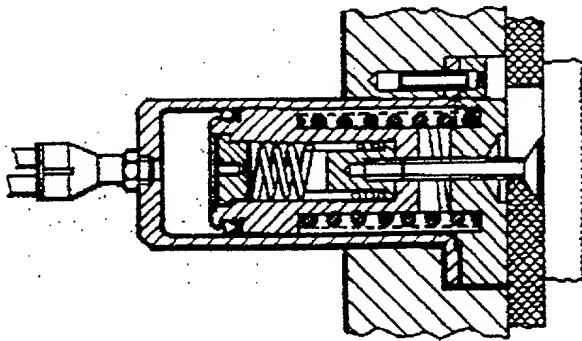


FIG. 8

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Declaration and Power of Attorney for Patent Application

Declaración y poder para solicitud de patente

Spanish Language Declaration

Como inventor abajo nombrado, por este medio declaro que:

Mi residencia, dirección postal y ciudadanía son los que indican a continuación, al lado de mi nombre.

Considero que soy el primer, original y único inventor (si hay un solo nombre indicado a continuación) o el primer, original y único inventor conjunto (en caso de múltiples nombres a continuación) de la materia objeto de la reivindicación y para la cual se solicita una patente sobre el invento titulado

cuya descripción se anexa a la presente, salvo que se marque la siguiente casilla:

- ☐ fue presentada el _____
bajo el número de solicitud de Estados Unidos o
número de solicitud internacional PCT
_____ y modificada el día
_____ (de ser procedente).

Por este medio declaro que ha revisado y que entiendo el contenido de la descripción que antecede, incluso las reivindicaciones, según estén modificadas de acuerdo con cualquier modificación arriba citada.

Por este medio reconozco mi deber de divulgar información que sea esencial con respecto a la patentabilidad según se define en el Título 37 del Código de Regulaciones Federales § 1.56.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

SYSTEM FOR FIXING ROTARY CUTTING
DIES IN MACHINES FOR DIE CUTTING
LAMINAR MATERIAL

the specification of which is attached hereto unless the following box is checked:

- ☒ was filed on 28 May 1999
as United States Application Number or PCT
International Application Number
PCT/ES99/00157 and was amended on
_____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

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Spanish Language Declaration

Por este medio reclamo prioridad extranjera bajo el Título 35, Código de Estados Unidos, § 119(a)-(d) o § 365(b) de cualquier o cualesquier solicitud(es) de patente o certificado de inventor extranjera(s), o bajo el Título 35, § 365(a) del mismo Código, de cualquier solicitud internacional PCT en que se designa por lo menos un país distinto a los Estados Unidos, dicha(s) solicitud(es) o dicho(s) certificado(s) enumerándose a continuación, y, marcando la(s) siguiente(s) casilla(s), también he identificado cualquier solicitud de patente o de certificado de inventor extranjera que tenga una fecha de presentación anterior a la fecha de la solicitud sobre la cual se reclama prioridad

Prior Foreign Application(s)

Solicitud(es) Extranjera(s) Anterior(es)

9801136 Spain
(Number) (Country)
(Número) (País)

(Number) (Country)
(Número) (País)

Por este medio reclamo el beneficio bajo el Título 35, Código de Estados Unidos, § 119(e) de cualquier o cualesquier solicitud(es) provisional(es) de Estados Unidos enumerada(s) a continuación.

(Application No.) (Filing Date)
(Nº de solicitud) (Fecha de presentación)

(Application No.) (Filing Date)
(Nº de solicitud) (Fecha de presentación)

Por este medio reclamo el beneficio bajo el Título 35, Código de Estados Unidos, § 120 de cualquier o cualesquier solicitud(es) de Estados Unidos o, bajo el Título 35, § 365(c) del mismo Código, de cualquier solicitud internacional PCT en que se designan los Estados Unidos, dicha(s) solicitud(es) enumerándose a continuación y, en la medida en que el objeto de cada una de las reivindicaciones de la presente solicitud no hubiere sido divulgado en la solicitud anterior de Estados Unidos o internacional PCT, según lo dispuesto en el primer párrafo del Título 35, Código de Estados Unidos, § 112, reconozco el deber de divulgar información que fuere esencial con respecto a la patentabilidad, según se define en el Título 37, Código de Regulaciones Federales, § 1.56, que hubiere llegado a estar disponible entre la fecha de presentación de la solicitud anterior y la fecha de presentación nacional o internacional PCT de la presente solicitud.

(Application No.) (Filing Date)
(Nº de solicitud) (Fecha de presentación)

(Application No.) (Filing Date)
(Nº de solicitud) (Fecha de presentación)

Por este medio manifiesto que todas las declaraciones hechas en la presente en base a mis propios conocimientos son verdaderas y que considero que son verdaderas todas las declaraciones hechas en base al mejor saber y entender; adicionalmente manifiesto que dichas declaraciones se hicieron con conocimiento de que las declaraciones falsas intencionales y similares son punibles por multa o encarcelamiento o ambos, bajo la Sección 1001 del Título 18 del Código de Estados Unidos y que dichas declaraciones falsas intencionales pueden poner en peligro la validez de la solicitud o de cualquier patente concedida en virtud de la misma.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

Derecho de prioridad no reivindicado

1 June 1998

(Day/Month/Year Filed)
(Día/Mes/Año de presentación)

(Day/Month/Year Filed)
(Día/Mes/Año de presentación)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status) (patented, pending, abandoned)
(Estado) (patentado, en trámite, abandonado)

(Status) (patented, pending, abandoned)
(Estado) (patentado, en trámite, abandonado)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Spanish Language Declaration

PODER: Como inventor nombrado, por este medio designo al siguiente abogado o abogados y/o agente o agentes para que tramiten la presente solicitud y realicen todas las gestiones ante la Oficina de Patentes y Marcas Registradas en relación con la misma: *(Indique el nombre y número de registro).*

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: *(list name and registration number).*

J John S. Egbert, Reg. No. 30,627
Al Harrison, Reg. No. 31,708

Envíe la correspondencia a:

Send Correspondence to: John S. Egbert
1018 Preston #100
Houston, TX 77002

Dirija las llamadas telefónicas a:
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Direct Telephone Calls to: John S. Egbert
(name and telephone number) (713) 223-4034

Nombre completo del único o primer inventor	Full name of sole or first inventor	Ramon SERRA OBIOL
Firma del inventor <i>[Signature]</i> Fecha 1/27/00	Inventor's signature	Date
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Ciudadanía	Citizenship	Spain
Dirección postal	Post Office Address	Avda. Conde Llobregat, 48 08760 Martorell SPAIN
Nombre completo del segundo inventor conjunto, si lo hubiere	Full name of second joint inventor, if any	
Firma del segundo inventor Fecha	Second Inventor's signature	Date
Residencia	Residence	
Ciudadanía	Citizenship	
Dirección postal	Post Office Address	

(Suministre información similar y firmas del tercer inventor conjunto y subsiguientes.)

(Supply similar information and signature for third and subsequent joint inventors.)